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Response under 37 C.F.R. § 1.116  
Expedited Procedure  
Examining Group 2871

PATENT  
ATTORNEY DOCKET NO.: 041501-5423

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
	)	
Woo Hyuk CHOI	)	Confirmation No.: 1083
	)	
Application No.: 09/843,781	)	Group Art Unit: 2871
	)	
Filed: April 30, 2001	)	Examiner: Z. Qi
	)	
For: REPAIR STRUCTURE FOR LIQUID	)	
CRYSTAL DISPLAY AND METHOD	)	
OF REPAIRING THE SAME	)	

Commissioner for Patents  
U.S. Patent and Trademark Office  
2011 South Clark Place  
Customer Window, **Mail Stop AF**  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202

Sir:

**RESPONSE TRANSMITTAL FORM**

1. Transmitted herewith is a Response and Request for Reconsideration under 37 C.F.R. §1.116 in response to the Final Office Action dated September 3, 2003 (Paper No. 7).

2. Additional papers enclosed:

- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | Information Disclosure Statement   |
| <input type="checkbox"/> | Form PTO-1449, _____ references included   |
| <input type="checkbox"/> | Citations  |
| <input type="checkbox"/> | Declaration of Biological Deposit  |
| <input type="checkbox"/> | Submission of "Sequence Listing", computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence. |

3. Extension of Time

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136(a) apply.

☒ Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

☐ Applicant petitions for an extension of time, the fees for which are set out in 37 C.F.R. § 1.17(a), for the total number of months checked below:

<u>Total Months Requested</u>	<u>Fee for Extension</u>	<u>[Fee for Small Entity]</u>
<input type="checkbox"/> one month	\$ 110.00	\$ 55.00
<input type="checkbox"/> two months	\$ 420.00	\$ 210.00
<input type="checkbox"/> three months	\$ 950.00	\$ 475.00
<input type="checkbox"/> four months	\$ 1,480.00	\$ 740.00

Extension of time fee due with this request: \$\_\_\_\_\_.

If an additional extension of time is required, please consider this a Petition therefor.

☐ An extension for \_\_\_\_\_ months has already been secured and the fee paid therefor of \$\_\_\_\_\_ is deducted from the total fee due for the total months of extension now requested.

4. Constructive Petition

☒ EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

5. Fee Calculation (37 C.F.R. §1.16)


CLAIMS AS AMENDED						
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	at Rate of	Total Fees
Total Claims (37 C.F.R. §1.16(c))	22	minus	26	0	x \$18 each=	+ \$0.00
Independent Claims (37 C.F.R. §1.16(b))	4	minus	4	0	x \$86 each=	+ \$0.00
[ ] First presentation of Multiple dependent claim(s)					\$290.00	+ \$0.00
SUB-TOTAL =						\$0.00
Reduction by ½ for filing by a small entity						- \$0.00
TOTAL FEE =						\$0.00

6. Fee Payment

- ☒ No fee is to be paid at this time.
- ☐ Please charge Deposit Account No. 50-0310 the amount of \$\_\_\_\_\_ for the extension of time fee or fee for claims.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, including fees due under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,  
**MORGAN, LEWIS & BOCKIUS LLP**

Dated: December 2, 2003

By:   
 Victoria D. Hao  
 Reg. No. 47,630

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Response under 37 C.F.R. § 1.116  
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PATENT  
Attorney Docket No. 041501-5423

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Arlington, VA 22202

Sir:

**RESPONSE AND REQUEST FOR RECONSIDERATION**  
**UNDER 37 C.F.R. § 1.116**

In response to the Final Office Action dated September 3, 2003 (Paper No. 7), the period for response to which extends through December 3, 2003, favorable reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

**Summary of the Office Action**

Claims 1, 3-9, 11-19, and 22-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Salisbury* (U.S. Patent No. 5,303,074) in view of *Henley* (U.S. Patent No. 5,459,410).

Claims 21 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Salisbury* in view of *Henley* and *Baum et al.* (U.S. Patent No. 5,407,710). At paragraph 3, the Final Office Action rejects claims 21 and 26 without citing *Henley*. However, Applicant assumes that the Final Office Action also intends to rely upon *Henley* in the rejection of claims 21 and 26, since it mentions that claims 21 and 26 are rejected as applied to claims 1, 3-9, 11-19 and 22-24. If Applicant's above-mentioned understanding and assumption are inaccurate, further clarification is requested with the next office communication.

#### **Summary of the Response to the Office Action**

No change to the claims has been proposed by this response. Accordingly, claims 1, 3-9, 11-19, 21-24 and 26 are currently pending.

#### **Interview with the Examiner**

Applicant would like to thank the Examiner for the courtesies extended during in-person interview with Applicant's undersigned representative on November 14, 2003. During the interview, the Examiner and Applicant's undersigned representative discussed independent claims 1, 9, 17, and 22 and the cited references, *Salisbury* (U.S. Patent No. 5,303,074) and *Henley* (U.S. Patent No. 5,459,410).

For instance as discussed during the November 14, 2003 Interview, with regard to independent claims 1 and 9, Applicant respectfully submits that the intersections of *Henley*'s gate line (15) and data line (13) are distant from pixels (11) and do not overlap pixels (11) at all. See, for example, FIG. 14 of *Henley*. Accordingly, Applicant respectfully submits that *Salisbury* in view of *Henley* fail to teach or suggest the claimed combinations as set forth in independent claims 1 and 9 including at least the features of wherein the repair pattern bypasses to pixel electrodes adjacent to the data/scan line and has a portion overlapping the pixel electrodes.

In addition, Applicant respectfully submits that the cited references lack motivation or suggestion to modify the arrangement of *Salisbury* in view of *Henley* to overlap pixels (11 of *Henley*) with gate and data lines (15 and 13 of *Henley*). If the next office communication asserts some additional modification of the arrangement of *Salisbury* in view of *Henley*, Applicant respectfully requests that evidence for such additional modification be provided in accordance with M.P.E.P. §2144.03.

For instance, as discussed during the November 14, 2003 Interview, with regard to independent claims 17 and 22, Applicant respectfully submits that *Salisbury* at most discloses forming insulating material between different layers of conductive lines, e.g., the dielectric layer (220) between the scan line (230) and the repair scan line (210). See, for example, FIG. 3 of *Salisbury*. In addition, at column 8, line 64 - column 9, line 1, *Salisbury* merely discusses electrically isolating the scan line (102) shown in FIG. 2B by severing the scan line (102) at severance points (160A and 160B) without forming any insulating material. Accordingly, Applicant respectfully submits that *Salisbury* in view of *Henley* fail to teach or suggest the claimed combinations as set forth in independent claims 17 and 22 including at least the features of forming an insulating material to fill portions between the first and second segments of the data/scan lines and between the second and third segments of the data/scan lines.

Moreover, Applicant respectfully submits that the cited references lack motivation or suggestion to modify the arrangement of *Salisbury* in view of *Henley* to form an insulating material to fill portions between the first and second segments of the data/scan lines and between the second and third segments of the data/scan lines, as set forth in Applicant's claimed combinations. If the next office communication asserts some additional modification of the

arrangement of *Salisbury* in view of *Henley*, Applicant respectfully requests that evidence for such additional modification be provided in accordance with M.P.E.P. §2144.03.

**Claim Rejections Under 35 U.S.C. §103(a)**

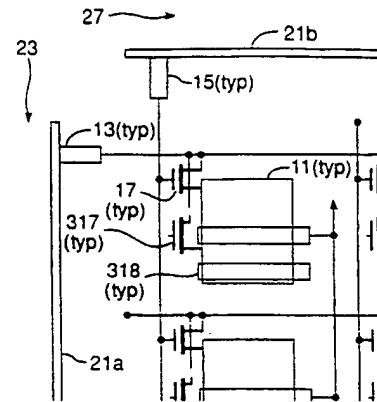
Claims 1, 3-9, 11-19, and 22-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Salisbury* in view of *Henley*. This rejection is respectfully traversed for at least the following reasons.

**Claims 1, 3-9 and 11-16**

Applicant respectfully submits that *Salisbury* and *Henley*, whether taken separately or in combination, fail to teach or suggest every feature of independent claims 1 and 9. For instance, it is respectfully submitted that *Salisbury* and *Henley*, whether taken alone or in combination, fail to teach or suggest the claimed combination as set forth in independent claim 1 including at least “wherein the repair pattern bypasses to pixel electrodes adjacent to the data line and has a portion overlapping the pixel electrodes,” and the claimed combination as set forth in independent claim 9 including at least “wherein the repair pattern bypasses to pixel electrodes adjacent to the scan line and has a portion overlapping the pixel electrodes.”

The Final Office Action asserts that *Henley* discloses cutting a gate line (15) at locations (80, 82) and using laser to remove passivation in areas (84, 86) to form a conductive bridge (88). See paragraph 4, lines 12-15 of the Final Office Action. The Final Office Action further asserts that “[b]ecause the gate line (scan line) and the data line form the pixel region, as shown in Figs. 6 and 14, the repair pattern [of *Henley*] is a conductive bridge across the pixel region... Therefore, when forming the conductive bridge, the repair pattern [of *Henley*] must have a portion overlapping the pixel electrodes.” Page 9, line 22 - page 10, line 5 of the Final Office Action.

However, as shown on the right, in contrast to the Final Office Action's assertions, the intersections of *Henley*'s gate line (15) and data line (13) in FIG. 14 are distant from pixels (11) and do not overlap pixels (11) at all. Thus, even assuming that the conductive bridge (88) of *Henley* crosses a pixel region defined by the crossing of the gate and data lines (15, 13), the conductive bridge (88) of *Henley* would not have



a portion overlapping the pixel electrodes, as set forth in Applicant's claimed combinations. Accordingly, it is respectfully submitted that *Henley* fails to teach or suggest the claimed combination as set forth in independent claim 1 including at least "wherein the repair pattern bypasses to pixel electrodes adjacent to the data line and has a portion overlapping the pixel electrodes," and the claimed combination as set forth in independent claim 9 including at least "wherein the repair pattern bypasses to pixel electrodes adjacent to the scan line and has a portion overlapping the pixel electrodes."

In addition, it is respectfully submitted that *Salisbury* is not relied upon as teaching or suggesting wherein a repair pattern bypasses to pixel electrodes and has a portion overlapping the pixel electrodes. It is further respectfully submitted that *Salisbury* also fails to teach or suggest a repair pattern bypassing to pixel electrodes and having a portion overlapping the pixel electrodes. Thus, Applicant respectfully submits that *Salisbury* and *Henley*, whether taken separately or in combination, fail to teach or suggest the claimed combination as set forth in independent claim 1 including at least "wherein the repair pattern bypasses to pixel electrodes adjacent to the data line and has a portion overlapping the pixel electrodes," and the claimed combination as set forth in independent claim 9 including at least "wherein the repair pattern



bypasses to pixel electrodes adjacent to the scan line and has a portion overlapping the pixel electrodes.”

Since, in view of the above, *Salisbury* and *Henley*, whether taken separately or in combination, fail to teach or suggest each and every element set forth in independent claims 1 and 9, it is respectfully submitted that *Salisbury* in view of *Henley* do not render claims 1 and 9 unpatentable. Since claims 3-8 and 11-16 depend from claims 1 and 9, it is respectfully submitted that *Salisbury* in view of *Henley* also do not render claims 3-8 and 11-16 unpatentable. Accordingly, withdrawal of the rejections of claims 1, 3-9, and 11-16 under 35 U.S.C. §103(a) is respectfully requested.

Claims 17-19 and 22-24

Applicant respectfully submits that *Salisbury* and *Henley*, whether taken separately or in combination, fail to teach or suggest every feature of independent claims 17 and 22. For instance, it is respectfully submitted that *Salisbury* and *Henley*, whether taken alone or in combination, fail to teach or suggest the claimed combination as set forth in independent claim 17 including at least “forming an insulating material to fill portions between the first and second segments of the data lines and between the second and third segments of the data lines,” and the claimed combination as set forth in independent claim 22 including at least “forming an insulating material to fill portions between the first and second segments of the scan lines and between the second and third segments of the scan lines.”

The Final Office Action asserts that “[a]lthough *Salisbury* does not expressly [disclose] forming an insulating material to fill the portions between the second segment and the first segments of the data lines (or the scan lines) and between the second segment and the third segments of the data lines (or the scan lines), but to insulate the two conductive segments using

insulating material that is the same principle as to insulate the repair lines and the transmission lines as Salisbury disclosed using silicon oxide or silicon nitride, i.e., insulating material, to insulate the two conductive lines.” Page 10, lines 10-17 of the Final Office Action.

However, as shown in FIG. 3, in contrast to the Final Office Action’s assertions, *Salisbury* at most discloses forming insulating material between different layers of conductive lines, e.g., the dielectric layer (220) between the scan line (230) and the repair scan line (210). Thus, even assuming that *Salisbury* discloses typically forming an intermediate layer of dielectric material between the conductive lines, no portion *Salisbury*’s disclosure teaches or suggests forming an insulating material between segments of one conductive line, as set forth in Applicant’s claimed combinations. Accordingly, it is respectfully submitted that *Salisbury* fails to teach or suggest the claimed combination as set forth in independent claim 17 including at least “forming an insulating material to fill portions between the first and second segments of the data lines and between the second and third segments of the data lines,” and the claimed combination as set forth in independent claim 22 including at least “forming an insulating material to fill portions between the first and second segments of the scan lines and between the second and third segments of the scan lines.”

In addition, it is respectfully submitted that *Henley* is not relied upon as teaching or suggesting an insulating material between the first and second segments of the scan line (or data line) and between the second and third segments of the scan line (or data line). It is further respectfully submitted that *Henley* also fails to teach or suggest an insulating material between the first and second segments of the scan line (or data line) and between the second and third segments of the scan line (or data line). Thus, Applicant respectfully submits that *Salisbury* and *Henley*, whether taken separately or in combination, fail to teach or suggest the claimed

combination as set forth in independent claim 17 including at least “forming an insulating material to fill portions between the first and second segments of the data lines and between the second and third segments of the data lines,” and the claimed combination as set forth in independent claim 22 including at least “forming an insulating material to fill portions between the first and second segments of the scan lines and between the second and third segments of the scan lines.”

Since, in view of the above, *Salisbury* and *Henley*, whether taken separately or in combination, fail to teach or suggest each and every element set forth in independent claims 17 and 22, it is respectfully submitted that *Salisbury* in view of *Henley* do not render claims 17 and 22 unpatentable. Since claims 18, 19, 23 and 24 depend from claims 17 and 22, it is respectfully submitted that *Salisbury* in view of *Henley* also do not render claims 18, 19, 23 and 24 unpatentable. Accordingly, withdrawal of the rejections of claims 17-19 and 21-24 under 35 U.S.C. §103(a) is respectfully requested.

Claims 21 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Salisbury* in view of *Henley* and *Baum et al.* This rejection is respectfully traversed for at least the following reasons.

Applicant respectfully submits that since *Baum et al.* fails to remedy the deficiencies of *Salisbury* and *Henley* as mentioned above and claims 21 and 26 depend from claims 17 and 22, respectively, *Salisbury* in view of *Henley* and *Baum et al.* also fail to render claims 21 and 26 unpatentable. Accordingly, withdrawal of the rejection of claims 21 and 26 under 35 U.S.C. §103(a) is respectfully requested.

**Conclusion**

In view of the foregoing, Applicant respectfully requests the Examiner's reconsideration and reexamination of the application and the timely allowance of the pending claims. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.


If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

**MORGAN, LEWIS & BOCKIUS LLP**

Dated: December 2, 2003

By:



Victoria D. Hao

Registration No. 47,630

**Customer No.: 009629**

**MORGAN, LEWIS & BOCKIUS LLP**

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